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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,188	12/22/2004	Junpei Natsui	TAN-347	6825
35777	7590	05/09/2007		
SHERMAN & ASSOCIATES 415 NORTH ALFRED STREET ALEXANDRIA, VA 22314			EXAMINER HESS, BRUCE H	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 05/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,188

Applicant(s)

NATSUI ET AL.

Examiner

Bruce H. Hess

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2-22-07 (amendment)
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: page 557 of JP 4-164685

Art Unit: 1774

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent to Minami et al. in view of the patent to Yoshihiro et al.

Minami et al. teach a thermally sensitive recording medium comprising a thermally sensitive recording layer which can contain a color former, a color developer of applicants' formula (4), a stabilizer of applicants' formula (2) and di (p-methylbenzyl) oxalic acid as a sensitizer. Yoshihiro et al. teach the equivalence of di (p-methylbenzyl) oxalic acid and di (p-halobenzyl) oxalate as thermally sensitive recording medium sensitizers [see the last two lines in paragraph (1) of enclosed page 557 wherein R is defined]. Given this teaching of equivalence, it would have been obvious to one of ordinary skill in this art to substitute one known sensitizer (e.g., di (p-halobenzyl) oxalate) for another known sensitizer (e.g., di (p-methylbenzyl) oxalic acid) in the absence of unexpected results.

The fact that applicants' claims do not require an epoxy compound is not dispositive of the issue of patentability since the claims recite the open term "comprising". Furthermore, Comparative Examples 5 and 6 are also not dispositive of the issue of patentability since they do not employ both an epoxy compound and the stabilizer of compound (2).



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④ 公開 平成4年(1992)6月10日

B 41 M 5/26

6956-2H B 41 M 5/18 1 0 1 C

審査請求 未請求 請求項の数 4 (全12頁)

⑭ 発明の名称 感熱記録体

⑯ 特 願 平2-293261

⑰ 出 願 平2(1990)10月29日

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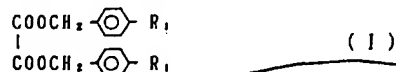
㉓ 代 理 人 弁理士 蓮 見 勝

明 細 書

1. 発明の名称 感熱記録体

2. 特許請求の範囲

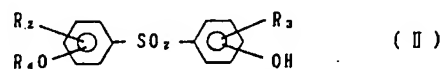
- (1) 無色又は淡色の塩基性染料と該染料と接触して呈色し得る呈色剤との呈色反応を利用した感熱記録体において、前記感熱記録体がエポキシ基を有する化合物を少なくとも一種含有し、且つ下記一般式(Ⅰ)で表される化合物を含有することを特徴とする感熱記録体。



(R₁ は水素原子、ハロゲン原子、アルキル基、またはアルコキシ基を示す。)

- (2) エポキシ基を有する化合物がノボラック型エポキシ樹脂、ベンゼン環を核としたグリシジルエーテル化合物、芳香族カルボン酸のグリシジルエステル化合物、ビスフェノールA型エポキシ樹脂、及びエポキシ基を有するジフェニルスルホン誘導体より選ばれる少なくとも1種である請求項(1)記載の感熱記録体。

- (3) 呈色剤が、下記一般式(Ⅱ)で表される化合物を含む請求項(1)または(2)記載の感熱記録体。



(R₂, R₃, R₄ は同一でも異なってもよく、それぞれ水素原子、アルキル基、またはアリル基を示す。)

- (4) 感熱記録体の記録面最上層に保護層を有する請求項(1)、(2)、または(3)記載の感熱記録体。

3. 発明の詳細な説明

「産業上の利用分野」

本発明は感熱記録体に関し、特に記録濃度が高く且つ記録像の保存安定性に優れた感熱記録体に関する。

「従来の技術」

無色又は淡色の塩基性染料と有機又は無機の呈色剤との呈色反応を利用し、熱により両発色物質を接触させて記録像を得るようにした感熱記録体は良く知られている。かかる感熱記録体